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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,859	02/18/2004	Mikhail Abramovich Gan	Q79849	6217

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EXAMINER

SPECTOR, DAVID N

ART UNIT PAPER NUMBER

2873

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/779,859

Applicant(s)

GAN ET AL.

Examiner

David N. Spector

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004 and 13 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0204/20040218</u> . | 6) <input checked="" type="checkbox"/> Other: <u>DETAILED ACTION</u> . |

DETAILED ACTION – NONFINAL REJECTION***Substitute Specification Required***

Title 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." A substitute specification, including the claims, is required pursuant to 37 CFR 1.125(a) because the current specification is replete with terms which are not clear, concise and exact. The material incorporated into the substitute specification should be carefully revised in order to comply with 35 U.S.C. 112, first paragraph. Examples of some (but not all) unclear, inexact or verbose terms used throughout the current specification are: "acryl", "positive element", "negative element", "convex lens", "hologram optical element", and "focal power".

The substitute specification must not contain new matter, and must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Furthermore, The incorporation of essential material in the current specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure (e.g. by inclusion of appropriate revisions into the substitute specification) to include the material incorporated by reference, if the material is relied

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upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

Claim Rejections - 35 USC § 112/1st

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A lens system comprising an element of "symmetrical shape and a similar magnifying power to the entire lens system" (*e.g. from the instant specification: Page 6, Line 10-11*) critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Since the aforesaid element is invested with substantially all of the optical power of the lens system it is clearly essential to the practice of the invention (*e.g. inasmuch as said lens system would not have sufficient optical power for image formation and/or focusing without the aforesaid element*).

Claim Rejections - 35 USC § 112/2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. The omitted elements are: a lens with symmetrical shape and a similar magnifying power to the entire lens system (Page 6, Line 10-11). See MPEP § 2172.01.

Claims 1-23 are further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms/phrases “positive element”, “negative element”, “convex lens”, “hologram optical element”, and “focal power” are indefinite as used in applicant’s claims for the reasons noted , below, in this Office action. The terms “positive element” [emphasis added] and “negative element” [emphasis added] are used in each of applicant’s independent claims 1, 8 and 20-23 (and elsewhere in the claims) to denote a single mass of optical material having two opposed optical surfaces, which surfaces are disposed transversely of the optical axis of the lens and spaced there along, or a grouped plurality of optical elements arranged in series along the optical axis of the lens. To one of ordinary skill in the art, however, the accepted meaning of the term positive/negative “element” is limited to a single mass of optical material having two opposed optical surfaces, which surfaces are disposed transversely of the optical axis of the lens and spaced there along. The term element is therefore indefinite as used in the aforesaid claims, because the specification does not clearly redefine the term. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). Alternatively, the use of other generally accepted terms (e.g. component, group, unit) to denote such a grouped plurality of optical elements could be applied to overcome the aforesaid indefiniteness.

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The terms "convex [emphasis added] lens" and "hologram [emphasis added] optical element" are indefinite as used in applicant's independent claims 1, 8 and 20-23 (and elsewhere in the claims). Firstly, there is no such thing as a "convex" lens *per se* and it is unclear here if the term is intended to mean a "biconvex" (or "double-convex") lens; or a "positive lens"; or if it simply refers to a lens with at least one convex surface. Second, it is not clear if the term "hologram optical element" is intended to refer to a general optical article incorporating a hologram; or, alternatively, if the term is actually intended to refer to a "diffractive optical element" which is typically used to compensate for an aberration such as chromatic aberration. (e.g. As described in the specification these so-called holographic optical elements (HOE) "may have a microstructure including a plurality of concentric rings having different heights" (Page 6, Lines 5-6), and the aforesaid HOE may be formed such that a peripheral region may diffract incident light more than a center region to effectively compensate for an aberration such as chromatic aberration" (Page 6, Lines 7-9).).

The term "focal power" is indefinite as used in applicant's dependent claims 4, 6, 13, 16, and 19 because it is undefined. In particular, the values recited in the claims in conjunction with said "focal power" are dimensionless decimal fractions ranging between 0.1-0.2 (Claim 4, Line 2); 0.5-0.7 (Claim 6, Line 2); 0.2-0.3 (Claim 13, Line 2); 0.01-0.1 (Claim 16, Line 2); and 0.35-0.4 (Claim 9, Line 2). This can not correspond to the conventional definitions of focal power (e.g. generally having dimensions of inverse length, $[\text{mm}]^{-1}$). It appears more likely that the intended meaning of "focal power" in these claims is the ratio ϕ_i/ϕ of the optical power ϕ_i of the lens in question to the total optical power ϕ of the lens system.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

FOR EXAMINATION PURPOSES ONLY: IN VIEW OF THE REJECTIONS OF APPLICANTS' CLAIMS 1-23 UNDER 35 U.S.C. 112, SECOND PARAGRAPH, ABOVE IN THIS OFFICE ACTION, THE FOLLOWING INTERPRETATIONS OF FEATURES/LIMITATIONS RECITED IN APPLICANT'S CLAIMS HAVE BEEN FOLLOWED: "POSITIVE ELEMENT" IS INTERPRETED TO MEAN --POSITIVE COMPONENT--; "NEGATIVE ELEMENT" IS INTERPRETED TO MEAN --NEGATIVE COMPONENT--; "CONVEX LENS" IS INTERPRETED TO MEAN --POSITIVE LENS--; "HOLOGRAM OPTICAL ELEMENT" IS INTERPRETED TO MEAN -- OPTICAL ELEMENT INCORPORATING A HOLOGRAM--.

Claims 1, 8, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto et al. (U.S. Patent No. 6,275,342).

In regard to independent Claim 1 Sakamoto discloses a lens system (col. 3, ln. 12-14, 15-34); FIG. 1) comprising positive 'element' Gr2[,] positioned in an optical path of incident light, including a first negative lens r8|d8|r9, a 'convex' lens r5|d5|r6_ and a hologram optical element[, r11*(HOE)]_ and a negative 'element' Gr1[,] positioned in the optical path, including a negative lens r1*|d1|r2. Independent Claim 1 is therefore anticipated by Sakamoto et al.

In regard to independent Claim 8 Sakamoto discloses a lens system (col. 3, ln. 12-14, 15-34); FIG. 1) comprising positive 'element' Gr2[,] positioned in an optical path of incident light, including a positive lens r10*|d10|r11*(HOE), a 'convex' lens r5|d5|r6_ and a hologram optical element[, r11*(HOE)]_ and a negative 'element' Gr1 [,] positioned in the optical path, including a second negative lens r1*|d1|r2. Independent Claim 8 is therefore anticipated by Sakamoto et al.

In regard to independent Claim 20 Sakamoto discloses an objective lens system (e.g. a zoom lens) comprising a lens system (col. 3, ln. 12-14, 15-34); FIG. 1) comprising positive 'element' Gr2[,] positioned in an optical path of incident light, including a first negative lens r8|d8|r9, a 'convex' lens r5|d5|r6_ and a hologram optical element[, r11*(HOE)]_ and a negative 'element' Gr1[,] positioned in the optical path, including a negative lens r1*|d1|r2. Independent Claim 20 is therefore anticipated by Sakamoto et al.

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In regard to independent Claim 21 Sakamoto discloses an objective lens system (e.g. a zoom lens) comprising a lens system (col. 3, ln. 12-14, 15-34); **FIG. 1**) comprising positive 'element' Gr2[,] positioned in an optical path of incident light, including a positive lens r10*|d10|r11*(HOE), a 'convex' lens r5|d5|r6_ and a hologram optical element[,] r11*(HOE)_ and a negative 'element' Gr1[,] positioned in the optical path, including a second negative lens r1*|d1|r2. Independent Claim 21 is therefore anticipated by Sakamoto et al.

Other Remarks/Information

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any other inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Spector whose telephone number is (571) 272-2338. The examiner can normally be reached at this number Monday through Friday between 6:00 AM and 2:30 PM. The fax number for the organization where this application is assigned is (703) 872-9306.

April 29, 2005



DAVID N. SPECTOR
PRIMARY EXAMINER